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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,567	10/22/2001	Rebecca Yuan	15983US01	3737

7590 02/27/2007  
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Chicago, IL 60661

EXAMINER
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TRAN, KHANH C

ART UNIT	PAPER NUMBER
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2611

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/27/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/035,567

Applicant(s)

YUAN, REBECCA

Examiner

Khanh Tran

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2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-25 is/are allowed.
- 6) ☒ Claim(s) 26 and 27 is/are rejected.
- 7) ☒ Claim(s) 28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03/20/2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. The Amendment filed on 12/11/2006 has been entered. Claims 1-28 are pending in this Office action.

### ***Response to Arguments***

2. Applicant's arguments, see Applicant's Remarks on pages 9-20, filed on 12/11/2006, with respect to the rejection(s) of claim(s) 1-2, 5-12 and 14-28 under 35 U.S.C 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Hsieh et al. U.S. Patent 6,643,336 B1 (previously cited).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 26 is rejected under 35 U.S.C. 102(e) as being anticipated by Hsieh et al. U.S. Patent 6,643,336 B1 (previously cited).

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Regarding claim 26, referring to FIG. 1, Hsieh et al. teaches a receiver 30 including a receiver front end 32, corresponding to the claimed a receiver module, an analog-to-digital converter (ADC) 34 connected with the receiver front end 32, a DC Offset estimator 38, corresponding to the claimed DC tracking loop (also see the flow chart in FIG. 9 illustrating how the DC offset is tracked), and a bit timing estimator 36 connected to the DC Offset estimator 38.

Referring to FIG. 3, see also column 4 lines 25-45, the bit timing estimator 36 further includes correlator 1 50 and peak timing identifier 52. Because the correlator 1 50 would produce a plurality of timing hypotheses and peak timing identifier 52 identifies a timing peak, therefore, the bit timing estimator 36 correspond to the claimed multi-hypothesis bit synchronizer.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hsieh et al. U.S. Patent 6,643,336 B1 (previously cited).

Regarding claim 27, Hsieh et al. does not explicitly show an initial estimation module as claimed by Applicant.

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However, referring to FIG. 9, steps 302-312 illustrates DC offset estimate start and the first DC offset is estimated at step 312; see also column 6 line 60 via column 7 line 5. In term of hardware implementation as taught by Hsieh et al., referring back FIG. 3, correlator 254, peak timing identifier and edge detector 58 in the DC offset estimator 38 perform the steps as recited above. In view of that, because peak timing identifier and edge detector 58 perform also the initial DC offset estimator, one of ordinary skill in the art at the time the invention was made would have recognized the interchangeability of peak timing identifier and edge detector 58 as taught by Hsieh et al. for the initial estimation module as claimed by Applicant.

***Allowable Subject Matter***

5. Claims 1-11 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 1, claim is allowable over prior art of record because the cited references cannot teach or suggest a method for operating a wireless device as set forth in the application claim.

6. Claims 12-18 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

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Regarding claim 12, claim is allowable over prior art of record because the cited references cannot teach or suggest "a maximum identifier coupled with each of the plurality of sample accumulators" and "wherein the maximum identifier is configured to identify the maximum output of the plurality of sample accumulators and cause an output to be generated according to the identified maximum output".

7. Claims 19-25 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 19, claim is allowable over prior art of record because the cited references cannot teach or suggest an apparatus comprising means as set forth in the application claim.

8. Claim 28 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Chalmers U.S. Patent 5,640,416 discloses "Digital Downconverter / Despreader For DirectSequence Spread Spectrum Communication System".

Han U.S. Patent 5,818,544 discloses "Method and apparatus for detecting when the carrier signal and symbol timing for a television signal is recovered and a high definition television employing the method and apparatus".

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 571-272-3007. The examiner can normally be reached on Monday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

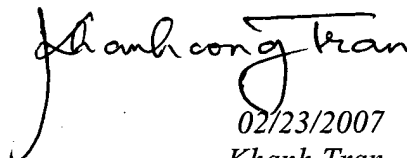
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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02/23/2007  
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Primary Examiner, AU 2611